

Centennial Watershed Assessment

Executive Summary and Authorized Officer's Determination

Bureau of Land Management
Dillon Field Office
1005 Selway Drive
Dillon, Montana
(406) 683-2337
January, 2005

This document summarizes the findings of the Centennial Watershed Assessment conducted during the 2004 field season. The assessment area covers approximately 83,102 acres of public lands administered by the Bureau of Land Management (BLM) in Beaverhead and Madison Counties, Montana. This area includes public lands administered by the BLM within two hydrologic unit code (HUC) 5 boundaries, upper and lower Centennial Valley. The assessment area includes forty-one grazing allotments and 9,663 acres that are unallotted or unleased. The table below summarizes the determination of rangeland health standards by allotment. It also briefly describes resource concerns identified by the interdisciplinary (ID) team and preliminary recommendations to mitigate these concerns and revise management where deemed necessary. Forest health was found to be Functioning-at-risk with a downward trend in the watershed. This affects biodiversity on several allotments and unallotted areas. BLM is currently working on National Environmental Policy Act (NEPA) documentation to analyze the impacts of developing or revising Allotment Management Plans (AMP) and forest treatment alternatives such as prescribed burning, non-commercial thinning and/or commercial harvest, where deemed necessary and appropriate, based on this watershed assessment.

Allotment Name Number Category & BLM acres	Are Healthy Rangelands Standards Being Met?					Resource Concerns (including discernable cause of resource concern) ³	ID team recommended actions to mitigate Resource Concerns
	Upland	Riparian Wetland	¹ Water Quality	² Air Quality	Bio-diversity		
<i>Antelope Peak</i> #20179 (I) Acres: 2,319	Yes	None	None	Yes	Yes	Composition and vigor of cool season grasses in south pasture	Ensure that deferred rotation grazing system is followed to allow spring rest in south pasture every other year.
<i>Cocanougher Ind</i> #10739 (I) Acres: 45	Yes	Yes	None	Yes	Yes	No concerns noted. Conditions are improving.	Allotment should be re-categorized as a Custodial Allotment.
<i>Fish Creek</i> #20172 (I) Acres: 4,184.	Yes	No	No	Yes	No	Ungulate impacts along the lower reach of Fish Creek, itself and Metzel Creek (streambank impacts and vegetative composition). Forest Health is FAR ↓. Fish Creek is on MT DEQ's 303(d) list for water quality impairment	Shorten the amount of time that cattle have access to these streams either through fencing, season of use and/or grazing system adjustment. Work with MT DEQ as they develop the Total Maximum Daily Loads (TMDL) plan for the Red Rock Area.
<i>Monida Hill</i> #20023 (I) Acres: 3,219	Yes	Yes ⁴	¹	Yes	Yes	No resource concerns noted. There are Lima Reservoir shoreline reaches that are FAR, outside the control of the BLM.	This allotment could be combined with the Phalarope East Allotment to allow more flexibility in management.

Allotment Name Number Category & BLM acres	Are Healthy Rangelands Standards Being Met?					Resource Concerns (including discernable cause of resource concern) ³	ID team recommended actions to mitigate Resource Concerns
	Upland	Riparian Wetland	¹ Water Quality	² Air Quality	Bio- diversity		
<i>Munday Reservoir</i> #21076 (I) Acres: 480	No	Yes ⁴	¹	Yes	Yes	Composition and vigor of cool season grasses. Slight to moderate soil erosion as evidenced by pedestals and water flow patterns. The allotment includes Lima Reservoir Shoreline reaches that are FAR, outside the control of the BLM.	Develop a grazing system that allows for periodic spring rest.
<i>Oxbow</i> # 20735 (I) Acres: 2,720	Yes	Yes	No	Yes	Yes	Red Rock River is on the Montana DEQ's 303(d) list for water quality impairment. Riparian conditions were found to be improving under current livestock management.	Continue to monitor riparian conditions. Work with the Montana DEQ when they complete the TMDL plan for Red Rock Area. Work with The Nature Conservancy to monitor conditions.
<i>Passmore SGC</i> # 20183 (I) Acres: 83	Yes	No	No	Yes	No	Ungulate impacts along Jones Creek (stream bank trampling). Jones Creek is on MT DEQ's 303(d) list for water quality impairment.	Reduce the amount of time that cattle have access to Jones Creek by fencing or other means. This is an isolated tract with no public access. Look for opportunities for land exchange. Work with MT DEQ as they develop the TMDL plan for the Red Rock Area.
<i>Phalarope East</i> # 20177 (I) Acres: 3,958	No	No ⁴	¹	Yes	No	Composition and vigor of cool season grasses Ungulate impacts to wetlands/riparian areas (trampling, pugging) The allotment includes Lima Reservoir shoreline reaches that are outside the control of the BLM.	Develop an AMP that reduces the amount of time that cattle spend in each area. This may involve developing watering sites away from Lima Reservoir and some fencing to implement a grazing system.

Allotment Name Number Category & BLM acres	Are Healthy Rangelands Standards Being Met?					Resource Concerns (including discernable cause of resource concern) ³	ID team recommended actions to mitigate Resource Concerns
	Upland	Riparian Wetland	¹ Water Quality	² Air Quality	Bio-diversity		
Price Creek # 30040 (I) Acres: 14,527	Yes	Yes ⁴	No	Yes	No	Forest health is FAR ↓ due to epidemic insect infestations, loss of aspen and white bark pine, overstocking of DF and LP pine and conifer encroachment. This is the cause of the biodiversity standard not being met. Price Creek is on MT DEQ's 303(d) list for water quality impairment. The allotment includes Lima Reservoir shoreline reaches that are FAR, outside the control of the BLM	A combination of prescribed burning, commercial and non-commercial harvesting to restore aspen stands and forest health and to reduce the size and intensity of wildfires is recommended. No changes are recommended in current livestock management. Work with MT DEQ as they develop the TMDL plan for the Red Rock Area.
Shambo Units # 20152 (I) Acres: 11,634	Rangeland Health Standards were completed in 2001 for livestock grazing management. New livestock management was fully implemented in 2002. Winslow fire burned 6,111 BLM acres within the allotment in August and September, 2003. These areas are being rested from livestock use for two growing seasons as per BLM policy.					Forest health is FAR ↑ within the Winslow Fire Area and FAR ↓ in the Jones Creek Area due to epidemic insect infestation, loss of aspen and overstocking of DF and LP pine. Winslow Creek riparian is NF due to Winslow wildfire. Jones Creek and Bean Creek are on MT DEQ's 303(d) list for water quality impairment.	Prescribed burning to restore aspen stands and forest health and to reduce the size and intensity of wildfires is recommended in the Jones Creek Area, where appropriate. Re-authorize post fire livestock grazing in Areas I and III first to allow Area II (Middle Unit) extra time to recover from wildfire impacts.

Allotment Name Number Category & BLM acres	Are Healthy Rangelands Standards Being Met?					Resource Concerns (including discernable cause of resource concern) ³	ID team recommended actions to mitigate Resource Concerns
	Upland	Riparian Wetland	¹ Water Quality	² Air Quality	Bio- diversity		
<i>Peet Creek</i> # 10730 (I) Acres: 4,735	Rangeland Health Standards were completed in 1998 for livestock grazing management. New livestock management was initiated in 2001 and fully implemented in 2004.					Forest health is FAR ↓ due to epidemic insect infestations, loss of aspen and whitebark pine, overstocking of DF and LP pine and conifer encroachment. Peet Creek is on MT DEQ's 303 (d) list for water quality impairment	A combination of prescribed burning and commercial and non-commercial thinning to restore aspen stands and forest health and to reduce the size and intensity of wildfires is recommended where deemed necessary and appropriate. Work with MT DEQ as they develop the TMDL plan for Red Rock Area.
<i>Long Creek AMP</i> # 20154 (I) Acres: 4,408	Rangeland Health Standards were completed in 2001 for livestock grazing management. New livestock management was initiated in 2003 and fully implemented in 2004.					Conifer encroachment into aspen stands. DF savannah is overstocked with sapling to small sawlog in understory Long Creek is on MT DEQ's 303(d) list for water quality impairment	Explore opportunities to treat aspen stands and restore DF savannah structure. Work with MT DEQ as they develop the TMDL plan for Red Rocks area.
<i>Brundage Creek</i> # 20708 (M) Acres: 3,961	Yes	No	¹	Yes	Yes	Riparian concern is trailing and trampling in the spring source and along the small stream in East Unit.	A spring exclosure is recommended to protect water source. An off-site trough should also be considered to reduce trailing along the small stream.
<i>Centennial</i> # 20710 (M) Acres: 528	Yes	None	None	Yes	Yes	No resource concerns noted. There are sand dunes in this allotment. Landon Fire burned in 1981.	Continue with current management.
<i>Duff Creek AMP</i> # 20688 (M) Acres: 3,343	Yes	Yes	¹	Yes	No	Forest health FAR ↓ below 7,500' elev. Epidemic insect infestation, loss of aspen, overstocking of DF and LP pine.	Prescribed burning to restore aspen stands and forest health and to reduce the size and intensity of wildfires is recommended, where appropriate.

Allotment Name Number Category & BLM acres	Are Healthy Rangelands Standards Being Met?					Resource Concerns (including discernable cause of resource concern) ³	ID team recommended actions to mitigate Resource Concerns
	Upland	Riparian Wetland	¹ Water Quality	² Air Quality	Bio- diversity		
<i>Lima Reservoir</i> # 10151 (M) Acres: 5,103	Yes	Yes ⁴	¹	Yes	Yes	Administrative concern regarding livestock control along Lima Reservoir. Site specific trampling concerns on riparian reach CE 141, a spring fed wetland in the East Unit. The allotment includes Lima Reservoir shoreline reaches Reservoir that are FAR, outside the control of the BLM. Vigor of cool season grasses was low, but was attributed to drought. Harsh site.	Continue with current livestock management. Consider fencing where practical and reasonable to control livestock. Consider water trough near CE 141 to reduce impacts to wetland. Monitor cool season grasses.
<i>Mud Lake Field</i> # 30260 (M) Acres: 269	Yes	Yes	None	Yes	Yes	Vigor of cool season grasses was low, but was attributed to drought. Harsh site.	Continue current management. Monitor cool season grasses.
<i>Red Rock</i> # 30636 (M) Acres: 266	Yes	Yes	No	Yes	Yes	Red Rock Creek is on Montana DEQ's 303(d) list for water quality. Spotted knapweed along shoreline of Red Rock Creek just below dam.	Continue to monitor riparian conditions. Work with the Montana DEQ when they complete the TMDL plan for Red Rock. Continue or expand treatment of knapweed with aquatic approved herbicides.
<i>Saier Individual</i> #20169 (M) Acres: 321	Yes	None	None	Yes	Yes	Uplands were in excellent condition. No riparian on allotment.	Continue current management.
<i>Sand Dunes</i> # 20732 (M) Acres: 599	Yes	None	None	Yes	Yes	No resource concerns were noted. Sand dunes need to be destabilized to provide habitat for early seral endemic sensitive plants.	Continue current livestock management. Explore means to destabilize sand dunes (i.e. prescribed burns, periodic intense grazing, periodic OHV use)

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7L SGC # 20153 (C) Acres: 342	Yes	Yes	No	Yes	Yes	Red Rock Creek is Montana DEQ's 303(d) list for water quality.	Continue to monitor riparian conditions. Work with the Montana DEQ when they complete the TMDL plan for Red Rock. The allotment consists of two isolated tracts with no public access. Look for opportunities for appropriate land exchange.
Bean Place # 10125 (C) Acres: 129	Yes	Yes	¹	Yes	Yes	No resource concerns were noted. CE 106 is a pond (lentic system) in excellent condition.	The allotment includes four ~40 acre isolated tracts, three of which have no public access. Look for opportunities for appropriate land exchange.
Brundage Bridge # 20707 (C) Acres: 443	Yes	No	No	Yes	No	Concerns include streambank impacts. Trailing scars and raw banks along the river. Red Rock Creek is Montana DEQ's 303(d) list for water quality.	Develop AMP and reduce duration of time that livestock have access to the riparian area. Continue to monitor riparian conditions. Work with the Montana DEQ when they complete the TMDL plan for Red Rock.
Centennial Iso. # 20641 (C) Acres: 40	Yes	None	None	Yes	Yes	No resource concerns noted	Continue with current management.
Cook Sheep Camp # 00767 (C) Acres: 286	Yes	None	None	Yes	Yes	No resource concerns noted	Continue with current management.
Curlew # 20199 (C) Acres: 478	Yes	Yes ⁴	¹	Yes	Yes	No resource concerns noted. The allotment includes a Lima Reservoir shoreline reach that is FAR, outside the control of the BLM.	Continue with current management.

Allotment Name Number Category & BLM acres	Are Healthy Rangelands Standards Being Met?					Resource Concerns (including discernable cause of resource concern) ³	ID team recommended actions to mitigate Resource Concerns
	Upland	Riparian Wetland	¹ Water Quality	² Air Quality	Bio- diversity		
<i>Davis Common</i> # 10737 (C) Acres: 446	Yes	Yes	No	Yes	Yes	Aspen is being encroached by DF along the toe of the slope. Hell Roaring Creek is on MT DEQ's 303(d) list for water quality impairment.	Explore opportunities to treat aspen stands. Work with MT DEQ as they develop TMDL plan for Red Rock Area.
<i>East Clover Creek</i> # 30651 (C) Acres: 476	Yes	Yes	No	Yes	Yes	Fences are not in place to control livestock from adjacent areas. Allotment has been in non-use for several years from permittee, but receives unauthorized use by livestock trailing along the County road. East Clover Creek is on Montana DEQ's 303(d) list for water quality impairment.	Explore opportunities to combine with adjacent allotment. Work with the Montana DEQ when they complete the TMDL plan for Red Rock Area.
<i>Jones SGC</i> # 20731 (C) Acres: 122	Yes	Yes	None	Yes	Yes	No resource concerns were noted.	Continue with current management. The allotment consists of two isolated tracts with no public access. Look for opportunities for appropriate land exchange.
<i>Long Creek SGC</i> # 20157 (C) Acres: 117	Standards were assessed along with the Long Creek Allotment in 2001. New management was fully implemented in this area in 2004.					Aspen and willow is being encroached by DF and juniper.	Explore opportunities to treat aspen and willow stands.
<i>Lousy Springs</i> # 00763 (C) Acres: 621	Yes	None	None	Yes	Yes	No resource concerns were noted.	Continue with current management.
<i>Mata-Stib SGC</i> # 10696 (C) Acres: 544	Yes	Yes	¹	Yes	Yes	Some pugging around perimeter of wetland, area, but the majority of the wetland is not impacted.	Continue with current management, monitor wetland.
<i>McCandless Bros.</i> # 20185 (C) Acres: 300	Yes	None	None	Yes	Yes	No resource concerns were noted.	Continue with current management.

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Monida-Corral Cr. # 00766 (C) Acres: 70	Yes	None	None	Yes	Yes	No resource concerns were noted.	Continue with current management.
Morton Ind. SGC # 20163 (C) Acres: 488	Yes	Yes	No	Yes	Yes	Aspen stands are being encroached by DF. Recreational use (hunting camps, horse use) is impacting understory of aspen. Corral Creek is on Montana DEQ's 303(d) list for water quality impairment.	Explore opportunities to treat aspen stands. Monitor recreational use Work with the Montana DEQ when they complete the TMDL plan for the Red Rock Area.
Munday East # 20162 (C) Acres: 333	Yes	None	None	Yes	Yes	Concern about vigor of cool season grasses. ID team attributed this primarily to the drought.	Continue with current management. Look for opportunities for spring deferment or periodic rest.
Ritchie SGC # 30610 (C) Acres: 160	No	Yes	None	Yes	Yes	Cool season grasses are substantially reduced or absent in this area. Some soil erosion is occurring	Develop AMP. Build spring deferment or periodic rest into system.
Rody Individual # 20685 (C) Acres: 112	Yes	No ⁴	¹	Yes	Yes	Concern about houndstongue infestation. The only riparian is a Lima Reservoir shoreline reach, outside the control of the BLM.	Continue or increase treatment on hounds-tongue.
Shineberger # 20159 (C) Acres: 280	Yes	Yes	¹	Yes	Yes	No resource concerns noted. Wetlands are in excellent condition.	Continue with current management.

Allotment Name Number Category & BLM acres	Are Healthy Rangelands Standards Being Met?					Resource Concerns (including discernable cause of resource concern) ³	ID team recommended actions to mitigate Resource Concerns
	Upland	Riparian Wetland	¹ Water Quality	² Air Quality	Bio-diversity		
Tom Creek # 20701 (C) Acres: 425	Yes	Yes	No	Yes	No	Warm dry forest type FAR ↓ due primarily to epidemic insect infestations. Administrative concerns: illegal trapping, illegal OHV activity, trespass cattle on ARS and USFS (Idaho). Tom Creek is on MT DEQ's 303 (d) list for water quality impairment.	Prescribed burning to restore aspen stands and forest health and to reduce the size and intensity of wildfires is recommended, where appropriate. Consider gap fences or boundary fence to mitigate trespass cattle. Post, close and/or patrol OHV routes. Remove illegal traps. Work with MT DEQ as they develop the TMDL plan for Red Rock Area.
Windmill # 20733 (C)	Yes	None	None	Yes	Yes	No resource concerns were noted.	Continue with current management.
Unleased Tracts	Yes	Yes	No	Yes	No	Forest Health – FAR ↓ due to epidemic insect infestations, loss of aspen and white bark pine, overstocking of DF and LP Pine. Odell Creek, Hell Roaring Creek and the Red Rock River are on MT DEQ's 303 (d) list for water quality impairment.	Prescribed burning to restore aspen stands and forest health and to reduce the size and intensity of wildfires is recommended, where appropriate. Work with MT DEQ as they develop the TMDL plan for the Red Rock Area.
¹ The United States Environmental Protection Agency (EPA) and the State of Montana Department of Environmental Quality (DEQ) have divided the Red Rock Watershed for purposes of assessment and development of Water Quality Restoration Plans into the Upper and Lower Red Rock. Centennial Valley is located in the Upper Red Rock Watershed. This assessment has not been initiated and little information is available regarding beneficial use support provided by Red Rock streams. The BLM and the State of Montana have detailed how they will cooperate in the assessment and planning process through a formalized Memorandum of Understanding.							
² Air Quality in Beaverhead and Madison County is excellent. Air Quality issues, however, involve more than general overall air quality. Smoke from wildland and prescribed fires is a health issue for communities. The BLM is an active participant in the Montana/Idaho Airshed Group Smoke Management Program and follows the Environmental Protection Agency's 1998 Interim Air Quality Policy for Wildland and Prescribed Fires through the development and implementation of Burn Plans.							
³ PFC = Proper Functioning Condition, FAR = Functioning-at-risk, ↑ = upward trend, ↓ = downward trend, → = static or not apparent trend, NF = Nonfunctional							
⁴ These allotments have Lima Reservoir shoreline riparian reaches. The shoreline reaches are FAR with a static or downward trend caused primarily by extreme fluctuations of the water levels. This is outside the control of the Authorized Officer.							

The issue of scale must be kept in mind in evaluating each standard. It is recognized that isolated sites within a landscape may not be meeting the standards; however, considering broader scope and scale, the area may be in proper functioning condition. No single

indicator provides sufficient information to determine rangeland health. They are used in combination to provide information necessary to determine land health.

Standard # 1; Upland Health

Three allotments are **not** meeting this standard:

1. Phalarope East
2. Munday Reservoir
3. Ritchie SGC

Shifts in vegetation composition from preferred herbaceous species to less desirable species that are indicative of sustained spring and early summer livestock use is prevalent in some upland areas in these allotments. Some soil erosion is also occurring on some upland areas in these allotments.

Standard # 2; Riparian Health

Six allotments are **not** meeting this standard:

1. Fish Creek
2. Phalarope East
3. Passmore SGC
4. Brundage Creek
5. Brundage Bridge
6. Rody Individual

Generally, the riparian areas that did not meet the standard had altered vegetative composition along the riparian zone and/or reduced bank stability due to streambank impacts (trailing and trampling). The riparian areas that did not meet the standards were determined to be FAR with either a static or downward trend. Riparian habitat that is FAR with an upward trend is considered to be meeting the riparian health standard because it is making progress toward the goal of PFC.

Livestock impacts have been determined to be a contributing factor in not meeting the riparian standard in the Fish Creek, Phalarope East, Passmore SGC, Brundage Creek and Brundage Bridge Allotments. In the Rody Individual Allotment, the only riparian habitat is a reach along the shoreline of Lima Reservoir. Extreme fluctuation of water due to the operation of the Reservoir has been determined to be the cause of this standard not being met on the Rody Individual Allotment.

Standard # 3; Water Quality

11 allotments and an unleased tract are **not** meeting this standard.

1. Fish Creek
2. Oxbow

3. Passmore SGC
4. Price Creek
5. Red Rock
6. 7L SGC
7. Brundage Bridge
8. Davis Common SGC
9. East Clover Creek
10. Morton Ind. SGC
11. Tom Creek
12. Unleased tract containing Odell Creek

These allotments contain streams that are on Montana DEQ's 303(d) list. Livestock impacts have been determined to be one of the contributing factors in not meeting the water quality standard in the Fish Creek, Passmore SGC and Brundage Bridge Allotments. This was based on riparian function. Within the other allotments listed, riparian and upland conditions were found to be improving or properly functioning. Therefore, BLM's activities are not currently contributing to water quality impairment in these areas.

Standard # 4; Air Quality

All the allotments assessed within the watershed are meeting this standard.

Standard # 5; Biodiversity

Nine allotments and an unleased tract are **not** meeting this standard:

1. Passmore SGC
2. Price Creek
3. Phalarope East
4. Shambo Units
5. Peet Creek
6. Duff Creek AMP
7. Brundage Bridge
8. Tom Creek
9. Fish Creek
10. Unleased Tract

The ID team found that conifer expansion has occurred and is occurring in the xeric forest and forest/shrubland ecotone habitats, and many of the riparian zones within the watershed. Changes in the dominant plant community are a significant contributing factor to the overall decrease in plant and animal biodiversity in these areas. Encroaching Douglas-fir is reducing the open sage and grasslands adjacent to forested areas and shading out important riparian plant species. Hydrological functions are also being impacted by the spread of conifers into the uplands and riparian areas and the loss of aspen/hardwood components. Epidemic insect infestations are widespread throughout

the watershed resulting in conifer mortality and increased fuel loading. Overstocked forests are becoming increasingly susceptible to insect attack and consequential mortality due to recent drought and competition for limited resources.

Forest health, fuels conditions and conifer encroachment have been determined to be the cause of the biodiversity standard not being met on the Price Creek, Shambo Units, Peet Creek, Duff Creek AMP, Fish Creek, and Tom Creek Allotments, as well as the unleased tracts on the south side of the valley between Duff Creek and Tom Creek.

Livestock impacts have been determined to be a contributing factor in not meeting the biodiversity standard in the Phalarope East, Passmore SGC, Fish Creek, Brundage Creek and Brundage Bridge Allotments.

Before any of the above stated recommendations can be implemented, NEPA documentation will be completed to analyze a reasonable range of alternatives to address resource concerns found during the Assessment. The Dillon Field Office (DFO) will be working on the NEPA documentation during the winter and spring of 2005.

Implementation of new plans will begin in 2005, but due to budgetary and human resource constraints, forest treatment projects and range improvement projects associated with the implementation of these plans may take several years.

For more information, a complete report of the Centennial Watershed Assessment including the Rangeland Health Standards, the Procedure used to complete the assessment, and the findings and recommendations of the ID team is available from the Dillon Field Office (406) 683-2337.

Authorized Officer's Determination:

Based on my review of the Assessment Team's recommendations and other relevant data and information, I have determined that the following allotments within the Centennial Watershed **meet** the Standards for Rangeland (Land) Health and Guidelines for Grazing Management for BLM lands in Montana:

- | | |
|---------------------------|-------------------------|
| 1. Antelope Peak | 12. Curlew |
| 2. Cocanougher Individual | 13. Jones SGC |
| 3. Monida Hill | 14. Long Creek SGC |
| 4. Long Creek AMP | 15. Lousy Springs |
| 5. Centennial | 16. Mata-Stib SGC |
| 6. Lima Reservoir AMP | 17. McCandless Bros. |
| 7. Mud Lake Field | 18. Monida-Corral Creek |
| 8. Sand Dunes | 19. Munday East |
| 9. Bean Place | 20. Shineberger |
| 10. Centennial Isolated | 21. Windmill |
| 11. Cook Sheep Camp | |

I have determined that the following allotments **do not** meet the Standards for Rangeland Health and Guidelines for Grazing Management for BLM lands in Montana.

- | | |
|---------------------|---------------------------|
| 1. Fish Creek | 11. Red Rock |
| 2. Munday Reservoir | 12. 7L SGC |
| 3. Oxbow | 13. Brundage Bridge |
| 4. Passmore SGC | 14. Davis Common SGC |
| 5. Phalarope East | 15. East Clover Creek |
| 6. Price Creek | 16. Morton Individual SGC |
| 7. Shambo Units | 17. Ritchie |
| 8. Peet Creek | 18. Tom Creek |
| 9. Brundage Creek | 19. Rody Individual |
| 10. Duff Creek AMP | 20. Unleased Tracts |

I have determined that current livestock management is a significant causal factor in the land health standards not being met on the following allotments:

1. Fish Creek
2. Munday Reservoir
3. Passmore SGC
4. Phalarope East
5. Brundage Creek
6. Brundage Bridge
7. Ritchie

The Oxbow, Redrock, East Clover Creek, 7L SGC, Davis Common SGC and Morton Individual SGC allotments as well as the unleased tracts contain streams that are on the

Montana DEQ's 303(d) list for water quality impairment, but since riparian and upland conditions are improving or properly functioning, I have determined that BLM's current management activities are not contributing to this impairment. The riparian standard was not met on the Rody Individual Allotment due to extreme fluctuations of water levels in Lima Reservoir.

I have also determined that forest health and fuels conditions are significant causal factors in the land health standards not being met on the following allotments:

1. Price Creek
2. Shambo Units
3. Peet Creek
4. Duff Creek AMP
5. Tom Creek
6. Fish Creek
7. Unleased Tracts between Duff Creek and Tom Creek

Pursuant to 43 CFR 4180.2(c), The authorized officer shall take appropriate action as soon as practicable but not later than the start of the next grazing year upon determining that existing grazing management practices or levels of grazing use on public lands are significant factors in failing to achieve the standards. Appropriate action means implementing actions that will result in significant progress toward fulfillment of the standards. Practices and activities subject to standards and guidelines include the development or revision of Allotment Management Plans (AMP), establishment of terms and conditions of permits, leases and other grazing authorizations, and range improvement activities such as vegetation manipulation, fence construction and development of water.

BLM Manual Handbook H-4180-1, Rangeland Health Standards Handbook, provides guidance for conducting watershed-based Land Health Assessments. It states "If the Land Health Standards are not being achieved because of a causal factor other than current livestock grazing management, you must consult other program guidance for the appropriate steps to be taken to ensure that progress toward meeting Standards is made." Since land health standards were not met due to unhealthy forest and hazardous fuels conditions, the forestry and fuels programs will adhere to guidance from the Healthy Forests Restoration Act, the Healthy Forests Initiative, the National Fire Plan and the Dillon Fire Management Plan to implement appropriate treatments.

The staff involved in the Centennial Watershed Assessment as core team members are listed below:

Aly Piwowar, Forester
Bart Howells, Rangeland Management Specialist
Joe Casey, Forester
John Simons, Rangeland Management Specialist
Kelly Bocking, Wildlife Biologist

Kipper Blotkamp, Fuels Specialist
Pat Fosse, Supervisory Rangeland Management Specialist
Paul Hutchinson, Fisheries Biologist
Paul Lenmark, Fuels Specialist
Steve Armiger, Hydrologist/Riparian Coordinator

Other staff involved in specific assessments or extended team members include:

Bill Volk, MSO Soils Scientist & Monitoring Program Lead
Billy McIlvain, MSO Natural Resource Spec. (Range Program Lead)
Brian Hockett, Rangeland Management Specialist
David Early, Rangeland Management Specialist
Emma Rens, Wildlife Biologist Technician
Eric Broeder, Range Technician
Grace Desmarais, Wildlife Biologist Technician
Huey Long, Soil Scientist, Butte Field Office
Jerry Meredith, Associate State Director
Jim Gray, MSO- State Fire Mgt. Specialist (Fuels)
Jim Roscoe, Wildlife Biologist
Mark Goeden, Assistant Field Manager for Renewable Resources
Mark Sant, Archeologist
Michael Mooney, Weeds Specialist
Mike Philbin, MSO Hydrologist and Riparian Program Lead
Reyer Rens, Rangeland Management Specialist
Rick Waldrup, Outdoor Recreation Planner/Wilderness Specialist
Theresa Hanley, MSO – Supervisory Land Use Specialist
Tim Bozorth, Dillon Field Manager

Other agency staff consulted or involved in specific assessments:

Bob Brannon, Wildlife Biologist, Montana Department of Fish, Wildlife and Parks
Boyd Leonard, USDA Agricultural Research Service – Sheep Experiment Range
Jeff Warren, Wildlife Biologist, Red Rock Lakes National Wildlife Refuge
Quinn Jacobson, USDA Agricultural Research Service – Sheep Experiment Range

Signature:

Title:

Date: